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Date.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Stars. Meas.	Concluded Motion of Stars. Estimd.	Remarks.
					Sky Spectrum.		
1882.							
Feb. 11	M	5	F		+ 1·2		Hydrogen spectrum faint; comparison difficult.
Mar. 14	M	5	F		+ 2·7		
Apr. 6	M	5	F		− 3·9		

Royal Observatory, Greenwich:
1883, *Jan.* 12.

Observation of the Great Comet (b) 1882, *made with the Transit Circle at the Royal Observatory, Greenwich.*

(*Communicated by the Astronomer Royal.*)

	Greenwich Mean Solar Time.	Observer.	R.A.	N. P. D. (Corrected for Refraction and Parallax.)
1882.	h m s		h m s	° ′ ″
Nov. 26	16 37 31	A.D.	9 1 29·93	117 46 39·59

Comet very faint; appeared elongated in a direction inclined 45° to the parallel of declination. The brightest part at about one-third of the way from the north end of the elongation to the south was observed.

Royal Observatory, Greenwich.
1883, *Jan.* 12.

Observations of the Great Comet (b) 1882.

By Charles Leeson Prince.

The Society has doubtless received, and will continue to receive, many details of the appearance of the great comet which has lately visited our region in space, and as the weather during the month of October, which was the most important period for making good observations in England, was extremely unfavourable, I beg to forward to the Society a few notes of what I was able to record at my Observatory upon the only possible opportunities. My first view of the stranger was at 5 A.M. on Oct. 4, and my first impression was that its general aspect was grander than that of Donati's in 1858, and exceeded in brilliancy of detail the great comet of 1861. As the nucleus was much enveloped in a mist which lay along the horizon, it was not very well defined in the telescope, but appeared to be oval, or pear-shaped, of a diffused orange colour, and without any very definite appendage surrounding it. The tail was nearly 25° long, and of great breadth at its extremity. I had no further opportunity of seeing it again until the morning of the 10th, when it was decidedly brighter than on the 4th; but this effect might have been partly due to my time of observation having been somewhat earlier.

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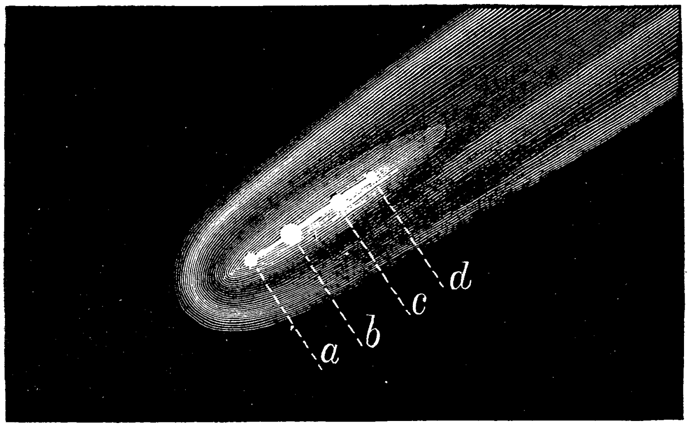
The tail, at its extremity, had a brilliant silvery light, and a peculiar flocculent appearance, against the dark sky. It extended nearly to *α Hydræ*. A few small stars were visible through it without, I think, having their brightness diminished. To the naked eye, I thought the brightness of the nucleus was about equal to that of a star of the second magnitude. On account of clouds coming up from SE. I had very little time for observation this morning.

Oct. 13.—I saw the comet again this morning, for a short time, but the definition was very unsatisfactory on account of the disturbed condition of the atmosphere. I could notice, however, that there was a decided change in the appearance of the nucleus. Instead of being of an oval shape it had become a long flickering column of light in the direction of the tail. The comet was very impatient of daylight, and could not be seen in the telescope after sunrise.

Oct. 20.—On account of the presence of clouds I did not see the comet this morning until the dawn had considerably advanced. I noticed, however, at once, that a still further change had occurred in the nucleus since the 13th, which amounted, in fact, to its disruption into at least three portions. Unfortunately, the definition was much interrupted by a thin layer of cirrostratus cloud. The brightest portion was the central one, and the column of light, seen on the 13th, had become narrower as well as lengthened in the direction of the tail. The southernmost portion was extremely faint and required some attention to be seen at all.

Oct. 23.—I had a splendid view of the comet this morning at $4^h\ 30^m$ L.M.T., and the definition was extremely good. I thought that both the nucleus and tail had somewhat diminished in brilliancy. The former was still visible to the naked eye as a star of about the fifth magnitude. The length of the tail was was fully 20°. The disruption of the nucleus which I had noticed on the 20th was now fully apparent. The nucleus proper had become quite linear, having upon it the four distinct points of condensation which I have endeavoured to represent in the subjoined sketch.



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It must be understood that the accompanying woodcut is to be considered rather as a *diagram* of the head of the comet than as a *view* of what I actually observed, and that the *points* in question are somewhat exaggerated in size, as well as the linear character of the nucleus itself. I found it was very difficult to represent, by means of a wood block, such a nebulous object; but I think it will serve to illustrate the nature of the wonderful disruption, and the relative distance of the several portions *inter se*: *a* was the most difficult portion to discern; *b* was by far the brightest of all; *c* was considerably less bright than *b*; and *d* was nearly as faint an object as *a*, and not quite so large. The linear nucleus, with these points of condensation upon it, was surrounded by a distinct oblong coma, which was rounded off at the lower extremity, while the upper portion, following the direction of the tail, terminated more decidedly in a point. G. J. Symons, Esq., F.R.S., was with me in the Observatory, and his impression was that there were *five* points of condensation, and he remarked that "the nucleus was like a string of beads." At intervals I thought there *was* another point of light between *b* and *c*, but as I could not absolutely satisfy myself of its objective existence, I have only represented the four portions, of the presence of which I entertained no doubt whatever. Both Mr. Symons and myself particularly noticed the frequent flickering of the light of the nucleus, which was quite apparent both to the naked eye and in the telescope.

Oct. 30.—After the lapse of a week I had another opportunity of observing the comet, but found that the presence of moonlight considerably diminished its brightness. The nucleus was, however, quite visible to the naked eye, and shone brightly in a large opera-glass. The almost saturated condition of the atmosphere prevented any good definition being obtained by the telescope. The largest point of condensation still shone brightly, but the three smaller portions were scarcely visible—in fact, *a* could no longer be seen. The nucleus maintained its strictly linear form, but all its more interesting features were much less distinct. With respect to the general appearance of the tail, there was a dark, nearly central, space throughout its entire length, the southern side being the brighter of the two, more particularly midway its length. On the morning of the 10th it was curiously bifurcated, near to its extremity, and had somewhat the appearance of entangled bright cords, or scattered locks of wool.

These observations were made with my Tulley Equatorial of 6·8 inches aperture and 12 feet focal length; powers 30 and 80.

The Observatory, Crowborough:
1883, *Jan.* 2.